



REGIONAL CO-OPERATIVE AGREEMENT
INTERNATIONAL ATOMIC ENERGY AGENCY



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BACKGROUND PAPERS

**EIGHTEENTH GENERAL CONFERENCE MEETING
OF
REPRESENTATIVES OF RCA MEMBER STATES**

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IAEA-Vienna, 28 September 1989

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Eighteenth RCA General Conference Meeting

Thursday, 28 September 1989, 10:00 hours

Room C07 IV, IAEA

The meeting was attended by 21 delegates representing all RCA Member States except Singapore. A list of delegates is attached as Annex 1.

In his opening remarks the interim Chairman, Mr. Wang Chuanying, Minister-Counsellor, China, noted that this meeting will provide an important opportunity to advise the Agency on the direction RCA should take over the next year (Annex 2).

Following acceptance of the Agenda (Annex 3) he invited the Deputy Director General, Department of Technical Co-operation to present his welcome on behalf of the IAEA. Mr. Noramly highlighted the major achievements over the past year and analysed a number of factors contributing to the success of RCA. He emphasized the need to maintain a strong and effective programme and expressed confidence that resources would follow. A full text is presented as Annex 4.

Then proceeded the election of Chairman. Dr. David Cook, Executive Director, Australian Nuclear Science and Technology Organisation was nominated by Thailand, seconded by Viet Nam and unanimously elected. Dr. Cook expressed appreciation for the leadership of the outgoing Chairman and thanked the delegates for their confidence. He reiterated Australia's view that RCA

is an excellent model for regional co-operation and pledged continuing support, especially for the industrial and medical projects (Annex 5).

Report by RCA Co-ordinator

In his report the RCA Co-ordinator outlined trends which had occurred over the past year. He made special reference to the support of donor countries and UNDP and highlighted some of the technical achievements. He noted in particular the receipt by the Agency of the Kilmer Award for the IAEA's contribution to the introduction of radiation sterilization technology to developing countries. Special reference was made to projects which commenced during the previous year. An analysis of some factors affecting the future of RCA was presented. The full text is attached as Annex 6.

RCA Annual Report 1988

The Chairman introduced the report and invited Member States for comments. The report together with a parallel document on the Regional Industrial Project was generally favourably received and was accepted by the Meeting without amendment.

The Chairman then invited delegates to present statements on behalf of their countries.

The delegate from Sri Lanka expressed interest in a number of projects including Radiation Vulcanization of Natural Rubber Latex, the Nucleonic Control Systems, Radiation Processing, Food Irradiation, Tissue Grafts and Non-Destructive Testing. Efforts were being made to enhance private sector involvement in many of these activities. He observed that RCA could be expanded to include examination of intercountry electric grids and the trans-boundary monitoring of controlled and uncontrolled environmental releases and the related question of emergency preparedness.

The delegate from India pointed out that his country was a founder member of RCA and contributes to the industrial and basic sciences programmes. India supports the Research Reactor Utilization Project and is funding an activity in 1990. The Indian delegate reported the establishment of the Board of Radiation and Isotope Technology which has the responsibility of providing radiation and isotope services to medicine, agriculture, and industry on a cost accountable basis. He reiterated India's offer of its facilities to other Member States in support of RCA activities.

The delegate from China noted with satisfaction that the volume of the RCA programme and the total budgets are steadily increasing. He was pleased to announce that China was funding two activities, namely "Regional Training Course on Formulation Technology of Radiation Cross-linking", Shanghai, September 1989

and the "Regional Workshop on Commercialization of Food Irradiation", Shanghai, January 1990. He announced a further contribution of \$50,000 to fund activities in China in 1990. A full text is attached as Annex 7.

The delegate from Viet Nam expressed particular support for the Research Reactor Utilization Project, the Industrial Project and the Radiation Protection Project. He noted the catalytic role of RCA activities in engendering governmental co-operation in nuclear science and technology. He announced that his Government is willing to host the 1991 RCA Working Group Meeting (Annex 8).

The chief delegate from Japan noted that RCA is a valuable instrument shared by the IAEA and Member States to assist the transfer of modern technology in areas of common interest to Member States, and to bring greater scientific and social benefits to the region. He reiterated his Government's continuing support for RCA, particularly in the fields of industry, medicine and radiation protection. He noted that Japan was in a position to make in-kind contributions to activities within the Research Reactor Utilization Project while his Government is considering participation in the project, due principally to financial constraints (Annex 9).

The delegate from the Republic of Korea noted that RCA is

widely recognised as an important instrument for nuclear co-operation among Asian and Pacific countries. Korea has recently heavily involved itself in the Regional Industrial Project and the Energy and Nuclear Power Planning Project. The delegate was pleased to report that Korea will fund a second RCA regional training course on Nuclear Power Planning and Implementation and expressed eagerness to participate in the new projects: RIA for Hepatitis B Diagnosis and Research Reactor Utilization (Annex 10).

The delegate from Malaysia fully supported RCA and he welcomed the trend towards larger projects. He thanked Japan for its statement on the Research Reactor Utilization Project.

The delegate from Bangladesh outlined his country's involvement in a range of RCA projects including Food Irradiation, Radiation Vulcanization, NDT Medical and Biological Applications of Nuclear Techniques, Research Reactor Utilization and Radiation Protection. He supported the suggestion from Sri Lanka that the radiation protection project could be expanded to include transborder monitoring of radionuclides.

The delegate from Indonesia endorsed the Annual Report 1988 and strongly supported the Research Reactor Utilization Project. Indonesia offered to host a course on Computer Applications to Research Reactor Control and Calculation (Annex 11).

The delegate from the Philippines tabled a detailed statement on his country's participation in the RCA programme (Annex 12).

Eleventh RCA Working Group Meeting, Sydney, March 1989.

The meeting accepted the report of the Working Group Meeting without amendment. The UNDP Project Co-ordinator elaborated on the discussion at the Working Group on the UNDP Mid-term Evaluation Mission of the Regional Industrial Project. He stated that the mission is to assess the project's effectiveness in transferring of nuclear technology to industry in the Region. The mission, upon its conclusion, will also recommend directions and framework for future development of the Project, especially beyond 1991. In this regard, co-operation of participating countries is essential.

The formulation of the Regional Industrial Project for years beyond 1991 is also underway through a series of co-ordination and expert advisory group meetings in the first half of 1990. As agreed by the Working Group Meeting in Sydney, the UNDP Project Co-ordinator suggested that it is an opportune time to introduce more regionality to the Project. All participating countries are requested to contribute to the formulation of the new proposal which is expected to be submitted to UNDP for preliminary assessment at the end of 1990.

The Deputy Director General outlined achievements within RCA since the Sydney meeting. He referred specifically to the inauguration by the Deputy Prime Minister of the Food Irradiation Plant in Thailand. He also noted that Malaysia had completed plans for the multi-purpose irradiator and thanked the delegate from Japan for his statement concerning the research reactor utilization.

RCA Programme 1990.

The RCA programme 1990 (Annex 13) was endorsed by the Meeting. The RCA Co-ordinator tabled two projects submitted by the Joint IAEA/FAO Division.

1. Regional Programme to Strengthen Research on Animal Production and Disease Control in Asia through Application of Immunoassay Techniques.
2. Regional Asia Project on Nitrogen Fixing Trees for Increasing Soil Fertility, Crop and Fuel Wood Production.

He requested Member States to consider these projects for possible submission to UNDP for funding during the 5th Programming Cycle 1992-97.

Other business.

- 1) Pakistan renewed the offer to host a Training Course in Energy and Nuclear Power Planning. The delegate from Pakistan

suggested that the RCA General Conference Meeting should be scheduled away from the Plenary Sessions of the General Conference because of difficulties experienced by developing countries with very small delegations.

2) Indonesia and Viet Nam reiterated support for the Research Reactor Utilization Project.

3) The Malaysian delegate said his Government would soon inform the Agency of Training Courses which could be hosted by his country.

The delegate from India renewed his country's offer to share facilities with other RCA countries. He specifically commented on two of the issues facing RCA raised by the RCA Co-ordinator (refer Annex 6, page 7-8). He agreed with the suggested basis for acceptance of participants from non-RCA countries in RCA activities (Annex 6, page 8, para. 3). Concerning the funding of RCA activities, he noted that his Government supported the view that financial and human resources should be derived from within the Region, where possible. Exceptions to this principle should be referred to the Meeting of Representatives on a case by case basis.

Summary of decisions taken by the Meeting.

1) The RCA Annual Report 1988 was accepted without amendment.

- 2) The report of the 11th RCA Working Group Meeting, Sydney was accepted without amendment.
- 3) The RCA programme 1990 was endorsed.
- 4) The offer by Thailand to host the 12th RCA Working Group Meeting, Chiang Mai, 19-22 March 1990 was confirmed.
- 5) The offer by Viet Nam to host the 13th RCA Working Group Meeting 1991 was accepted.

Closing

In his closing remarks the Chairman thanked all Member States for their co-operation and invited all countries to attend the 1990 Working Group Meeting in Chiang Mai. He especially thanked Viet Nam for agreeing to host the 1991 Meeting.

In conclusion, Professor Noramly, DDG-TC thanked all RCA Member States, Professor Zifferero, DDG-RI and the staff involved technical divisions and TC for their continuing support. He assured Member States that the Secretariat would follow-up the recommendations of the Meeting.

The meeting was adjourned at 12 noon by the Chairman.

Eighteenth General Conference Meeting of Representatives
of RCA Member States

Representation

AUSTRALIA:

Mr. David Cook
Executive Director
Australian Nuclear Science and
Technology Organization
Sydney

Mr. Garth Hogg
Counsellor, Atomic Energy
Permanent Mission of Australia

BANGLADESH:

Mr. M.A. Mannan
Chairman
Bangladesh Atomic Energy Commission
Dhaka

CHINA:

Mr. Wang Chuanying
Alternate and Minister Counsellor
The Chinese Mission to the IAEA

Mr. Le Junchu
First Secretary
The Chinese Mission to the IAEA

Mr. Xu Niacheng
Deputy Division Director
Office of IAEA Affairs
Ministry of Energy
Beijing

INDIA:

Mr. R.G. Deshpande
Chief Executive
Board for Radiation and Isotope Technology
Bhabha Atomic Research Centre
Bombay

INDONESIA:

Mr. Nazir Abdullah
Deputy Director General, Applied Science
BATAN
Jakarta

JAPAN:

Mr. Hitoshi KATO
Assistant Director
Nuclear Energy Division
Ministry of Foreign Affairs
Tokyo

Mr. Tetsuya KAGAMI
Special Staff
Science and Technology Agency
Tokyo

Mr. Toshiyuki KIMURA
Special Assistant
Permanent Mission of Japan in Vienna

REPUBLIC OF KOREA:

Mr. Heung Yil Park
Director, Nuclear Safety and Co-operation Office
Ministry of Science and Technology

Mr. Jae Hong Lee
Assistance Director
Nuclear Safety and Co-operation Office
Ministry of Science and Technology

Mr. Myung Hwan Kim
Administrator
Korea Advanced Energy Research Institute

MALAYSIA:

Datuk Mr. Mohd. Ghazali
Director General
Nuclear Energy Unit
Prime Minister's Department
Bangi, Selangor

Ms. Fatima Mohd. Amin
Scientific Attache
Malaysian Embassy in Austria

Mr. Razley Nordin
Head, External Affairs Unit
Nuclear Energy Unit

PAKISTAN:

Mr. Jawad Azim Hashimi
Attache (Atomic Energy)
Embassy of Pakistan

PHILIPPINES:

Mr. Q.O. Navarro
Director
Philippine Nuclear Research Institute
Quezon City

SRI LANKA:

Mr. D.A. Nethsinghe
Chairman
Sri Lankan Atomic Energy Authority
Colombo

THAILAND:

Mr. Suchat Mongkolphantha
Secretary General
Office of Atomic Energy for Peace
Bangkok

VIET NAM:

Mr. Nguyen Tien Nguyen
Head, Dept. of International Relations
Viet Nam National Atomic Energy Commission
Hanoi

Ms. Hoang Thi Nhung
Dept. of International Relations
Viet Nam National Atomic Energy Commission
Hanoi

Eighteenth RCA General Conference Meeting

Remarks by Interim Chairman

It gives me great pleasure to call to order this Eighteenth General Conference Meeting of RCA Member States.

A great deal has been achieved in RCA since we adjourned the last Meeting and a great deal needs to be done. This would not be possible without counsel and support of all RCA Member States. This meeting provides further important opportunity to advise the Agency on the direction RCA should be taken over the next year.

May I take this opportunity of thanking you for the support you gave me as Chairman. I know you will extend the same courtesies to my successor.

Thank you.

Eighteenth General Conference Meeting of
Representatives of RCA Member States

10:00h Thursday, 28 September 1989
Conference Room IV, C07, IAEA Headquarters

Agenda

1. Opening

- . Remarks by interim chairman
- . Welcome on behalf of the IAEA
- . Election of chairman
- . Statement by chairman elect

2. Report by RCA Co-ordinator.

3. RCA Annual Report 1988.

The Meeting is invited to accept the report as tabled or with any agreed amendments. The report was circulated separately.

4. Eleventh RCA Working Group Meeting, Sydney, March 1989.

The Meeting is invited to accept the report as presented or with any agreed amendments. The basic report is presented as background paper 1.

5. RCA Programme 1990.

The Meeting is invited to endorse the 1990 RCA programme documents presented in background paper 2.

6. Other Business.

Eighteenth General Conference Meeting
of Representatives of RCA Member States

Opening Remarks

Noramly bin Muslim

Deputy Director General

Head, Department of Technical Co-operation

Distinguished Delegates, Ladies and Gentlemen!

On behalf of the Director General, I am honoured to welcome you all to this Eighteenth General Conference Meeting of Representatives of RCA Member States. It is always a pleasure to meet old friends and colleagues whose wise counsel over the years has helped to mould the RCA tradition. It is also a privilege to meet delegates who may be here for the first time. RCA cannot afford to stand still, and the Agency looks to new people with new ideas to ensure RCA's continuing relevance to more than half the world's population who live within the rapidly developing Asia and Pacific region.

May I use this opportunity to apprise you of significant progress over the past year. First of all, I wish to reiterate the Agency's gratitude to the Australian Government for hosting the Working Group Meeting in March. The proceedings were formally opened by the Deputy Prime Minister, and Attorney General, Mr. Lionel Bowen MP who observed that RCA can be held up as a working example of how integration in the Asia and Pacific Region can be made to work effectively. These comments echo strong political support for RCA over many years by other political leaders in other fora. Such support is the basis of our strength and the foundation of our future planning.

The Working Group Meeting was skilfully guided by its chairman, Dr. David Cook, Executive Director ANSTO. A full review of the programme was undertaken and the groundwork laid for the documents you have before you.

I shall not attempt to enumerate the technical achievements. They have been outlined in the RCA booklet which is hot off the press and has just been distributed to you.

I am pleased to inform you that the Agency's contribution to the introduction of radiation sterilization technology to developing countries has been recognized by the presentation of the Kilmer Award. In accepting this honour, the Agency wishes to acknowledge the efforts of all RCA Member States which have contributed in various ways to the transfer of this technology.

It is a privilege for me to publically acknowledge the many factors which have contributed to the success of the programme.

First and foremost there are the people involved, both in the Region and in the Secretariat. I am acutely aware that our colleagues within the Region all have important national responsibilities. That they also devote so much effort to RCA is a tribute to their belief in regional co-operation. You may be interested to know that all but one of the technical divisions within the Agency are now involved with the RCA programme. We clearly owe much to the skill and dedication of our Technical Officers and the TC staff.

Secondly, I gratefully acknowledge the continuing support of our donor countries and Agencies, which accounted for over 70% of the funding in 1989. The steadily increasing contributions of our five donor countries, Japan, Australia, India, Republic of Korea and China as well as UNDP is the life blood of the programme. I will only specifically mention the Radiation Crosslinking Training Course, Shanghai and the Food Irradiation Workshop, Shanghai as they are the inaugural activities funded by our latest donor. Reference should also be made of the support from the Asian Development Bank, the World Bank and ESCAP to the programme as well as the "in kind" contributions of all Member States without which implementation of project activities would not be possible.

The third factor contributing to the RCA programme has only recently become apparent. As I mentioned in the Sydney Working Group Meeting, funding is essential but does not, in itself guarantee the quality of the programme. It is the key to a far greater asset; the intellectual resources of major respected institutes within the Region which have assumed special responsibility for individual projects.

I would not like to leave the impression that there are no issues facing RCA. By and large they are a consequence of the success of the programme and include:

- 1) the question of support for RCA from resources outside the Region,

- 2) the question of the future membership of RCA,
- 3) the question of the future balance of the RCA programme, and
- 4) the question of the relationship between RCA and existing or possible future regional arrangements in Latin America, Africa and Europe and the Middle East.

Overriding all these questions is that of the long-term future of RCA. As I mentioned earlier, I particularly enjoy meeting new people at meetings such as these. They frequently provide new ideas which are essential if RCA is to be a dynamic agreement and maintain relevance to the people it serves. In the present climate, it is unlikely the Agency can inject substantial additional resources into RCA. Fortunately our strength lies with our Member States. Together we need to develop a strong and effective programme and proceed in the full expectation that resources will follow. This is our challenge. I look forward to our meeting this morning as an important further step along this path.

Thank you.

Statement by Dr. D.J. Cook

Chairman

(Summary)

Dr. Cook expressed gratitude to the delegates for their confidence in electing him chairman. He paid tribute to the leadership of the outgoing chairman, Mr. Wang Chuanying of China.

Dr. Cook made reference to the spirit of co-operation which was a feature of RCA and which pervaded the Sydney Working Group Meeting. He reiterated Australia's view that RCA is an excellent model for regional co-operation and pledged continuing support, especially for the industrial and medical projects.

Finally, the Chairman pointed out that there were a number of important issues to be considered at this meeting and expressed confidence that the decisions made would strengthen the basis of RCA as it entered an important phase of its development.

Eighteenth RCA General Conference Meeting

Report

Peter Airey

RCA Co-ordinator

Mr. Chairman, Distinguished delegates, Ladies and Gentlemen,

Thank you for the opportunity to report on some of the highlights which have occurred since we last met in this forum. For clarity and succinctness, I will enumerate these points one by one and conclude with some general comments on the future.

1. Budget

The RCA budgets have been rapidly increasing over the past years. In 1987 the RCA operating budget was \$1.8M, in 1988 \$2.3 in 1989 \$3.13M. For a number of reasons, I believe the rate of growth will flatten out unless there is a major change in the perception of the role of RCA in the Region. I do not consider this likely or necessarily desirable. Some future scenarios for RCA will be discussed later.

2. Funding

The DDG has already expressed gratitude to the five donor countries, Japan, Australia, India, Republic of Korea and China. Together with the UNDP they provide over 70 per cent of the funding and are the life blood of the RCA. I am hoping that the programme will become so attractive that still more RCA countries will wish to join the family of donors. The Asian Development Bank co-hosted a major training course on Electric Systems Expansion Planning and 'in kind' support was received from the World Bank and ESCAP. The Mekong Committee has expressed interest in more formal collaboration with the Agency in the Energy and Nuclear Power Planning Project. The in kind contributions of RCA Member States are freely acknowledged as essential to the implementation of all projects.

3. The RCA programme

The highlights of the programme is described in the booklet that you have before you. I am extremely grateful to the Division of Public Information for having it ready in time.

There are at present 18 projects within the framework of RCA. The average annual budget per project has been increasing over the years and is currently about \$190,000. This compares very favourably with the average annual budget of the UNDP

Regional Asian Projects of \$120,000 over the fourth programming cycle, 1987-1990 and is consistent with TC's policy of encouraging larger projects.

About 51% of resources are invested in the Industrial Project. This is very much higher than the average for the Agency's programme and reflects the rapidly growing industrial sector within developing Asian countries. The IAEA's contribution to the introduction of radiation sterilization technology to developing countries has been recognized by the granting of the Kilmer Award which is underwritten by the Johnson and Johnson Company, and which was received on the Agency's behalf by the Technical Officer.

The investment in Agriculture which had been declining for some years reached a low point of 4.1% in 1988. It will soon rise to about 11% with the confirmation of funding of two new UNDP projects - in the fields of food irradiation and nitrogen fixation.

4. Highlights of the technical programme

In the time available, I can with one exception list only the new initiatives which have been undertaken over the past year. Further details can be obtained in the RCA booklet in the Annual Report and in the UNDP Project Co-ordinator's report. The exception is the landmark Symposium on Radiation Vulcanization of Natural Rubber Latex held in July in Takasaki.

The Regional Industrial Project has contributed, in part, to the development of this technology which is particularly suited to the production of medical products due to the absence of carcinogenic nitrosamines. Production at the pilot plant scale is commencing.

Concerning new initiatives within the Industrial Project seminars at the use of Electron Beam technology to remove environmentally damaging sulphur and nitrogen oxides from flue gases are about to commence. The other major new undertaking is the NCS Coal Project. Final commissioning of the coal-ash/moisture monitory system is being currently completed at the Mae Moh Lignite mine, Thailand. The ceremonial opening is scheduled for 1 November 1989.

Within the Medical and Biological Applications Programme, I am pleased to report the commencement of Phase II of both the Liver and the Cancer Projects. The climax of Phase I of the Liver Project was the production of an Atlas of Liver Images. Because this atlas is devoted to diseased conditions of the liver common in Asia, it is proving to be of particular value to physicians in developing countries. I was pleased to hear from the technical officer that there are plans for a similar atlas for lung conditions arising out of the CRP on Radioaerosol Imaging for the Diagnosis of Respiratory Diseases.

An important project aimed at developing nuclear medicine infrastructure within an environment of increasingly

sophisticated instrumentation was launched with a regional training course on the Use of Computers in Technetium-99m Imaging. This training course is to be followed up by expert visits.

Further comments on other medical projects and on the agricultural programme will be made later in the context of new project initiatives.

The project on Research Reactor Utilization was launched in Kuala Lumpur with the March 1989 Project Formulation Meeting. The Project recognizes the problems that those 6 RCA Member States with only one research reactor have in developing an adequate support infrastructure, and plans to address this problem by effective co-operation on a regional basis.

In the field of Radiation Protection a new CRP was launched on the "Anatomical Metabolic and Physiological Characteristics of a Reference Asian Man". The ICRP is showing considerable interest in this project which will complement the current reference standards which refer to Caucasian Man. A series of Workshops on Personnel and Environmental dosimetry has commenced.

Briefest mention only can be made of the new initiatives in the Energy and Nuclear Power Planning Project. An important training course on Electric Systems Expansion Planning was held

during the year and the workshop series have been expanding in scope to include not only assessment of the PC version of WASP but also the MAED and Methodologies.

New projects

A number of new projects are scheduled for commencement. Foremost amongst these are two UNDP funded projects:

- (1) Food Irradiation Process Control and Acceptance
- (2) Increasing Yield and Nitrogen Fixation Capabilities of Common Grain Legumes Grown in Asia.

The food irradiation project will effectively be the third phase of the Regional Project on Food Irradiation. A successful conclusion of this project will see a substantial increase in trade in irradiated food products and additives throughout Asia. There is little doubt that UNDP was substantially influenced in its funding decision on the conclusion of the International Conference on the Acceptance, Control and Trade in Irradiated Food, December 1988, Geneva.

The nitrogen fixation project will continue a long tradition for support within RCA for mutation breeding projects.

RCA is hopeful that some extension of the RIA project to Hepatitis B diagnosis will be possible. Most of you would be

aware that the RIA thyroid project has been directly responsible for reducing the unit cost of a patient investigation by up to a factor of 10 by introducing bulk reagent methodology. Cost reductions are immensely important given the WHO estimates of 250M people within Asia who are affected by or at risk from Iodine Deficient Disorders. Extension to Hepatitis B offers enormous challenges.

The issues facing RCA

There are a number of issues facing RCA which your advice either this morning or at some future time would be welcome.

1. The Relationship between the Working Group and the General Conference Meeting.

The meeting this morning will be requested to accept, with any amendments which may be agreed, two documents: the RCA Annual Report 1988 and the Report of the RCA Working Group Meeting. In addition, this meeting will be invited to endorse the 1990 programme. A draft form of both documents and the 1990 programme were discussed at the Working Group Meeting. If this model is accepted the General Conference Meeting which tends to be attended by delegates with a high policy overview will provide an opportunity for endorsement of recommendations made by the senior technical experts at the Working Group.

2. The Relationship between the RCA and the Regional Asian Projects.

Regional Asian projects and activities are an approved element of the Agency's TC programme which has not been incorporated within RCA. The Regional Asian programme is administered by the RCA Co-ordinator. It currently comprises 4 regional training courses and a Footnote a/ project on Marine Sciences funded by the USA. Unless otherwise agreed, any Footnote a/ projects picked up by a non-RCA country will be administered as a Regional Asian project.

3. Acceptance of participants from non-RCA countries in RCA training activities.

Occasionally, a request is received for such participation. In general a participant from a non -RCA country would be accepted provided:

- a) the host countries agrees;
- b) the participation is at no cost to RCA;
- c) the participation does not prejudice the training opportunity for a qualified candidate from an RCA country.

The future of RCA

In assessing the future of RCA it is first necessary to analyse its inherent strengths which I assess to be the following:

(i) Nuclear technology is non-sectorial

Nuclear techniques can be applied to a wide range of applications in the fields of agriculture, resources, medicine and industry. This is coupled with the fact that the IAEA is a UN technical agency in high standing well received throughout the Region. Hence RCA is in a good position to co-ordinate projects over variety of fields throughout the region. Collaboration with national agencies is easy and natural and indeed is essential of RCA is to make a significant development impact. The IAEA is in a good position to transfer technology to local specialists. It is not, in general in a good position to reach the end user. For this, heavy reliance is placed on, for example:

- a) the national agricultural extension services,
- b) the nation's health care infrastructure, or
- c) the entrepreneurial skills of the national atomic energy agencies.

ii) Nuclear technology contributes to sustainable development

In the field of manufacturing and mineral industries, nucleonic control systems technologies permits a far greater control on a wider range of processes. Without going into details, it can be unequivocally stated, that NCS in general leads to both an materials savings and an energy savings. The technology leads to increase profitability and contributes to sustainable development through reduced environmental impact. Such technologies must surely have a lasting future. Similar comments could be made for a variety of radiation industries.

3. RCA is a natural vehicle for TCDC

The clear evidence for this is that 3 of the 5 RCA donors are developing countries. All truly regional activities by their very nature involve TCDC. For example (1) the regional supply of bulk reagents for RIA (2) moves towards the standardization certification of NDT personnel (3) developing the regulatory environment for facilitating interregional trade in irradiated foodstuffs.

4. Political support.

The fourth and overriding strength of RCA is its political support. Many examples are provided in delegates' statements to this General Conference.

The challenge we face this morning is how to exploit these strengths. Many I offer a personal view. RCA does not depend on any particular theory of national or regional development - it depends on the strength of its programme. RCA cannot be pushed; it must be drawn forward by good and relevant projects. In formulating a programme we can afford to be bold as a strong network is in place which is resilient and flexible enough to cope with new initiatives. As indicated above, some new and exciting initiatives have already been taken.

The Agency must prove equal to the challenge of administering such a programme. If the Agency's resources are constrained, and if the RCA programme is genuinely wanted, as I firmly believe is, ever greater reliance on human resources within the Region will be required. Some tentative steps along these lines have been taken. For example:

- 1) Over 60% of RCA projects benefit from a special association with a Regional Institute. A monetary value cannot be placed on the benefits received. An element of joint management is involved.

- 2) Increasing use is being made of the Contract mechanism to implement projects where training opportunities and sources of expertise is heavily concentrated on one institute.

- 3) Long-term experts appointed in the field provide general as well as specialized technical support.

I conclude on an optimistic note. The quality of a good project, like the clarity of a good idea is self evident. Good projects attract resources because our colleagues in the funding Agencies share with us a common aim: that of helping needy countries in the region of the world we share to increase the quality of life of all its citizens.

Thank you!

COUNTRY STATEMENT OF CHINA TO THE 18TH
GENERAL CONFERENCE MEETING

Mr. Chairman:

First of all, I join the other delegates to congratulate you on your election as the chairman of the meeting.

Mr. Chairman, since the last RCA representative meeting, the RCA programme continues to achieve satisfactory progress in promoting the peaceful uses of atomic energy in RCA Member States and in strengthening the regional co-operation between the RCA Member States. The RCA Annual Report 1988 clearly outlined what has been done and what achievements have been made within the RCA framework. The Chinese delegation noted with satisfaction that the volume of RCA programme and the total of RCA budgets are keeping up a steady increase.

An important and notable feature of RCA is that almost all RCA Member States are making their contributions in different ways in the light of their various capabilities, such as extra-budgetary contribution, hosting activities, providing expert services and etc.. All these kinds of contributions demonstrate the sincere co-operation between RCA Member States and play an extremely important role in promoting RCA activities. China, as a Member State of Asia and Pacific

region, has its obligation to make contributions to the regional co-operation and development. In 1989, China made an extra financial contribution to fund two regional activities in China, one is "Regional Training Course on Formulation Technology of Radiation Cross-linking" which is now underway in Shanghai and the other is a "Regional Workshop on Commercialization of Food Irradiation" which will be held in early January 1990. Besides, we also organized other RCA activities as a host country and provided expert services under RCA projects. China will continue to do everything within its capability to make contributions to the RCA programme in the future, and is prepared to make an extra contribution of \$50,000 to fund activities in China in 1990.

The Agency's RCA programme and UNDP/IAEA regional projects have gained tangible results in economic development of the Asia and Pacific region. We must continue such a principle that the priority of RCA activities should be placed on those projects which are in line with the requirements of most RCA Member States and will produce economic benefits in the short-term through technology transfer. The Mid-Term Evaluation on UNDP-IAEA Industrial Project which will take place soon should include assessment on the economic benefits of the project to the region and RCA Member States and the results of the evaluation could be feedback to the decision maker.

Lastly, Mr. Chairman, I wish to express our sincere gratitude and appreciation to the IAEA, the Deputy Director General, the RCA Co-ordinator, UNDP Project Co-ordinator and all Project Officers who have made great contribution to the success of the RCA Programme.

Thank you.

COUNTRY STATEMENT OF VIETNAM AT THE 18_{th}
RCA GENERAL CONFERENCE MEETING

Mr.Chairman,

It is my sincere pleasure to be here, in 18th RCA General Conference Meeting and on behalf of the Vietnamese Delegation, I would like to join the others to congratulate you on election as Chairman of this meeting.

Since our RCA activities have been presented by our colleague at the 11th Group Meeting, at this meeting, I would like only to reiterate our hope on the approval of the Research Reactor Utilization project. For us, this project together with the UNDP/IAEA Industrial Project RAS/86/073 and the RCA project on Strengthening of Radiation Protection (RAS/9/006) will play a key role in our RCA activities. Besides, we do appreciate the feasibility and visible benefits which carry the RCA projects RAS/8/066, RAS/8/065. Vietnam is interested in most RCA projects and we are trying to participate in them with hopes of gaining benefits as well as of contributing to the Regional Cooperations.

Mr. Chairman, distinguished delegates,

In concluding this statement, I would like to emphasize the catalytic role of RCA activities which are enforcing undeniably the intergovernment cooperation in the area of Nuclear Science and

Technology and the mutual understanding between the countries of Asia and the Pacific region on the way for Peace and Advance.

About people and country of Vietnam, especially our activities in the Regional Cooperations, we hope all delegates present here will know better by yourself in 1991, when Vietnam has the honour to host the 13th RCA working Group Meeting.

Again, I wish to join other delegates to congratulate the success of this meeting

Thank you.

COMMENT OF VIETNAM
ON THE 1990 RCA PROGRAMMES

Mr. Chairman,

In comparing the project proposal initiated by Dr. Ghazali from Malaysia in Sidney (Annex 23, Report on 11th RCA Working group meeting) with the draft formulated in the project formulation meeting in Kuala Lumpur, March 1989, we found out that some interesting problems have slided out of the last draft.

We suppose that, the problems of neutronic and thermal hydraulics, the physics calculations are of importance for the knowwhy and for the education in the reactor matters. The first technical session in Kuala_Lumpur project formulation meeting also shared partly with this opinion. Moreover, all these tasks can be somewhat materialized by using personal computers, so that for theoretical investigation they do not need a large financial resources.

We hope, the approved project will reflect these problems of interests.

Thank you.

COUNTRY STATEMENT OF JAPAN TO THE 18TH
GENERAL CONFERENCE MEETING

Mr. Chairman:

On the occasion of the 18th Annual Meeting of Representatives of RCA Member States, I would like to join others to congratulate you on your election as Chairman of the meeting.

The RCA is a valuable instrument shared by the IAEA and Member States to assist the transfer of modern technology in areas of common interest to Member States, bringing greater scientific and social benefits to the region.

Over the past years Japan has continued to maintain a close interest in the RCA and I would like to reiterate the support of the Government of Japan for co-operation in the framework of the agreement to enhance regional activities through the peaceful uses of nuclear energy.

UNDP/IAEA INDUSTRIAL PROJECT

Japan is pleased to note the extension of the industrial application of radioisotopes and radiation technology. With close co-operation among the RCA member countries, the Agency

and the UNDP, steady progress has been made in various projects again in the past year. Japan has been actively participating in sub-projects on radiation processing, non-destructive testing and nuclear control systems for paper, steel and civil engineering.

It is pleasant to note that the project on Radiation Vulcanization of Natural Rubber Latex has achieved remarkable progress and results in various participating countries. Two important meetings concerning RVNRL, namely National Research Group Leaders and the International Symposium, were successfully held in Tokyo at the end of July. I am pleased to report that this sub-project of the UNDP Industrial Project has steadily contributed towards regional industrial development. I hope that the project, as well as other radiation processing programmes will be promoted by many member countries.

In the midst of Phase II which started in 1987, an evaluation mission is scheduled early next year to review the programme and recommend activities to be taken for the project beyond 1991. We recognize the important role of the mission and we are willing to give the largest support possible to the mission.

Strengthening of Radiation Protection Infrastructure

This project is intended to improve and strengthen radiation protection capabilities of RCA Member States through a concerted and comprehensive programme of activities, with emphasis placed on those leading to infrastructure building.

This year, an expert advisory group meeting was convened in February in Tokyo during which programmes for 1989 were co-ordinated. Japan will hold a Regional Training Course on the Basic Techniques of Radiation Protection in October. We will continue to support the CRP on Compilation of Anatomical, Physiological and Metabolic Characteristics for a Reference Asian Man. Also, India will hold a Workshop on Environmental Sampling and Measurements of Radioactivity for Monitoring Purposes in October.

Japan invites active co-operation of members to promote the programme in order to build proper systems and develop measures to ensure safety in the use and application of nuclear techniques, which are expanding in the region.

Research Reactor Utilization

The Research Reactor Utilization Project has been proposed by Malaysia and supported by a number of countries during the Eleventh Working Group Meeting in Sydney. We are in a position

to contribute in kind to the programme activities as much as possible for the time being and yet we are still in the process of considering participation in this project, due principally to financial constraints.

18th RCA GENERAL CONFERENCE MEETING
COUNTRY STATEMENT: REPUBLIC OF KOREA

Mr. Chairman,

It is my great pleasure to participate in this 18th General Conference Meeting of Representatives of RCA Member States here in Vienna, and also to congratulate you on the election as a chairman of this important meeting.

RCA is widely recognized as an important instrument for nuclear co-operation among member countries of the Asian and Pacific Region, greatly contributing to the development and applications of nuclear technology covering a broad spectrum in medicine, biology and agriculture as well as other industries over the past 17 years.

Recently, Korea has strongly involved itself in existing RCA projects, principally Regional Industrial Projects and Energy and Nuclear Power Planning Projects.

Under the Agency's Assistance with experts abroad, Korea hosted the "National Executive Management Seminar on the Applications of Radioisotopes and Radiation in Civil Engineering" August, the workshop on Radioaerosol Inhalation

Imaging for the Diagnosis of Respiratory Diseases" and "Research Co-ordination Meeting on the Evaluation of Imaging Procedures for the Diagnosis of Liver Diseases" - Phase II this month.

Also, we will host a National Executive Management Seminar on Stack-gas Treatment and a National Executive Management Seminar on Radiation Sterilization on Medical Products is scheduled from October 10 to 11, and from October 30 to November 3 this year, respectively.

In addition, I am happy to report that Korea will provide the second RCA Regional Training Course on Nuclear Power Project Planning and Implementation this October, providing about 20 participants with an overview of practical elements, problems and constraints involved in planning and implementation of nuclear power projects from pre-project activities to plant operation. I wish to assure you that we will continue to support this important project.

We well recognize that technology and experience should be shared for national interest. Based on this context, our delegations strongly support the new proposed projects by IAEA, including Radioimmunoassay for Hepatitis B Diagnosis and Research Reactor Utilization, and are eager to participate in these projects.

Thank you.

Indonesian Proposal for 1990

R C A - Indonesia

3 - Weeks Course

on
COMPUTER APPLICATION ON
RESEARCH REACTOR CONTROL
AND
CALCULATION

Sponsor

INDONESIAN ATOMIC ENERGY AGENCY
INTERNATIONAL ATOMIC ENERGY AGENCY
(FINANCED BY RCA)
AND INDONESIA

Co-ordination: Reactor Physic Division of RSG GAS

Lecturers: RCA Staff and IAEA Experts

Participants: From RCA Countries

Subjects of Lectures and Workshops

1). Neutronics and Reactivity

- * Reactivity Determination by Inverse Kinetic Method
(Application of KINIK Code) (2d)
- * Neutronic of Fuel Element, Cell Calculation by ANISN
and WIMS Code (2d)
- * Whole Core Neutronic using CITATION Code (2d)
- * Burnup determination using CREMAT Code
(Fuel Management) (2d)
- * Reactor Poisoning by Xenon/Samarium (XENSAM Code)
(1d)

2). Reactor Thermohydraulics

- * Fluid Flow and Heat-transfer calculation by HEATHYD
Code (3d)
- * Modelling of Natural Convection Heat-transfer
(Code FREECON) (1d)

3). Transient and Safety Analysis (SOTRAN code)

- * Calculation of Flow Transients and Loss of Flow (1d)
- * Reactivity Transient and Accidents (1d)

COUNTRY STATEMENT OF THE PHILIPPINES TO THE 18TH
GENERAL CONFERENCE MEETING

Mr. Chairman:

PROJECT PARTICIPATION

The Philippines as a signatory to the RCA agreement is participating in the following activities:

1. Regional Industrial Project
 - 1.1 Tracer Technology in Industry
 - 1.2 Non-Destructive Testing
 - 1.3 Radiation Technology
 - 1.4 Nucleonic Control Systems

2. Medical and Biological Applications
 - 2.1 Use of Computers in TC-99m Imaging
 - 2.2 Radioimmunoassay of Thyroid Related Hormones
 - 2.3 Inhalation Imaging for Diagnosis of Respiratory Diseases
 - 2.4 Development of Radiation Protection Infrastructure
 - 2.5 Compilation of Anatomical, Metabolic and Physiological Characteristics of Reference Asian Man

- 2.6 Radiation Sterilization for Tissue Grafts
- 2.7 Care and Maintenance of Nuclear Medical Instruments
- 2.8 Imaging Procedures for Diagnosis of Liver Diseases
(Phase II)

3. Agricultural Projects

- 3.1 Nuclear Techniques to Improve Domestic Buffalo
Production
- 3.2 Second Phase of Asian Regional Co-operative Project on
Food Irradiation (RPFI Phase II)

4. Research Reactor and Energy-Based Projects

- 4.1 Research Reactor-Based Projects
 - 4.1.1 Research Reactor Utilization
 - 4.1.2 Basic Science Using Research Reactor
- 4.2 Energy-based projects
 - 4.2.1 Energy and Nuclear Power Planning

STATUS OF PROJECTS

- 1. Regional UNDP Industrial Project
 - 1.1 Tracer Technology in Industry

A National Executive Management Seminar (NEMS) on Tracer Technology in Industry was held on 21-23 November 1988. Nineteen (19) participants representing different sectors of industry and government institutions attended the seminar which also included a demonstration experiment on catalytic flow measurement at the Batan Refinery.

For 1990, the Philippines expects to host the National Co-ordinators Meeting on 19-21 February 1990 in Baguio City.

1.1 Non-Destructive Testing

The two key activities under this sub-project are the conduct of NDT training courses and the programme for qualification and certification of NDT personnel.

The Regional Training Course, UT Level 3, was held from 6-22 March 1989. A total of 14 participants and 5 observers attended.

A state university offering technical courses has initially offered this June 1989 a 3 year technician course on NDT. A feature of this course is a built-in on-the-job training with industry participation.

With regards to qualification and certification, we wish to note that the Philippines has already adopted a national standard (PNS 146:1987) which is ISO-based. The first certificate examination was held in September-October 1988. The next certification examinations are scheduled in October 1989.

Four (4) National Training Courses are programmed for 1989. Three (3), namely RT-3, RT-2, UT-1, have been held with a total of 36 participants. This brings to 13 courses held with a total of 105 trained since the initial course in 1986. A UT-2 course is scheduled late this year.

Future activities include the continuation of NDT training courses, specialized NDT seminars/workshop for specific industries, the continuation of the qualification and certification examinations and the establishment of a code of practice for NDT practitioners. The Philippines will host an RTC-3 in June 1990.

1.3 Radiation Technology

Professor J.L. Garnett of Australia undertook a mission to the Philippines on 6-8 June 1988, to evaluate the feasibility of installing a UV-lamp as demonstration curing unit for wood products at the Forest Products Research and Development Institute (FPRDI). He favorably recommended the addition of a UV lamp to the existing heat curing line (after the necessary modifications) of the FPRDI. A follow-up mission is still being awaited.

A National Executive Management Seminar on Radiation Sterilization was organized by the Philippine Nuclear Research Institute and held on 1-2 December 1988. There were 23 participants representing industries, hospitals, research institutions and government agencies.

1.4 Nucleonic Control Systems

A Regional Executive Management Seminar is being programmed for 21-24 February 1990 also in Baguio City. Negotiations for industries which are installing or seriously considering acquiring nucleonic control systems.

2. Medical and Biological Applications

2.1 Use of Computers in Technetium-99m Imaging

The Philippines participated in the first training course held in Australia from 10 April - 26 May 1989.

2.2 Radioimmunoassay of Thyroid Related Hormones

The technology on the radioimmunoassay of thyroid related hormones and on increasing assay reliability using bulk reagents and computer data processing of assay and internal quality control results are being transferred to assayists, medical doctors and technologists in the various hospitals in some parts of the country through the conduct of national training courses, seminars and workshops.

2.3 Inhalation Imaging for the Diagnosis of Respiratory Diseases

Based on the work carried out in the project the Philippine participant made a presentation at the International Symposium on "Dynamic Functional Studies" held in Vienna in August 1988 under the auspices of IAEA. The Philippines participated in the Research Co-ordinated Meeting (RCM) held in Seoul, Korea from 4-6 September 1989.

2.4 Development of Radiation Protection Infrastructure

The Philippines participated in:

1) Regional Training Course on the Development of Infrastructures for Ensuring Radiation Protection 28 March to 29 April 1988, 2) Regional Workshop: Personal and Environmental Dosimetry Intercomparison Study, Tokai, Japan 17-21 October 1988 and 3) Project Formulation Meeting for Co-ordinated Research Programme on Compilation of Anatomical, Physiological and Metabolic Characteristics for a Reference Asian Man, Mito City, Japan 17-21 October 1988.

2.5 Compilation of Anatomical, Metabolic and Physiological Characteristics of Reference Asian Man.

The research contract entitled "Compilation of Anatomical, Metabolic and Physiological Characteristics for a Reference Filipino Man" is being undertaken under the Reference Asian Man Co-ordinated Research Programme.

2.6 Radiation Sterilization of Tissue Grafts

The project involves the use of gamma radiation for the sterilization of bone grafts, dura mater, amnions and other tissues. It is a collaborative study between the Philippine General Hospital (PGH), The National Orthopedic Hospital and the Philippine Nuclear Research Institute. A bone and tissue bank is expected to be established at the PGH at the end of the year. These grafts are used in reconstructive surgery.

This year, the number of hospitals utilizing PNRI-processed tissue grafts increased from two to five. One of the new users, the Tala Leprosarium, utilizes amnion as ulceration/deep wound cover. Before this, amnions were used only for burns. For 1989, (to date) the following grafts were prepared and processed: 242 pieces amnion grafts and 267 pieces chipped bones (cancellous and cortical). Of these 200 amnion grafts and 259 chipped bones were issued to users.

2.7 Care and Maintenance of Nuclear Medical Instruments

The research contract entitled "Quality Control and Maintenance of Nuclear Instruments" is being undertaken under

this project. The chief scientific investigator is attending the RCM this November 1989.

2.8 Imaging Procedures for Diagnosis of Liver Diseases (Phase II)

The Philippines attended the formulation meeting for this research co-ordinated programme in Seoul, Korea from 7-9 September 1989.

3. Agricultural Projects

3.1 Nuclear Techniques to Improve Domestic Buffalo Production

The two Philippine research contractors attended the final RCM held at the Tropical Cattle Research Centre, CSIRO Division of Tropical Animal Production, Rockhampton, Australia from 20-24 February 1989.

In the "Pilot Village Study to Improve Philippine Swamp Buffalo Production Using Nuclear Techniques", the presence of the research team in the project area has been a plus factor in the village study, and the farmers are gradually accepting scientific methods, artificial insemination, sampling for laboratory analyses. This includes the measurement of progesterone by radioimmunoassay for a proper assessment of the

reproductive status of these animals. The direct and indirect benefits derived from improved carabao production through a practical management scheme are recognized.

3.2 Second Phase of Asian Regional Co-operative Project on Food Irradiation (RPMI Phase II)

The Philippines participated in the final RCM under Phase II held in Bangkok, Thailand from 31 October - 4 November 1988.

Research and development efforts were directed on the following commodities: onions, garlic, mangoes, copra, coffee beans, dessicated coconut, spices and prawns. These commodities were chosen on the basis of two criteria 1) commodities that are available in commercial quantities, and 2) commodities that command a high market potential.

The toxicological safety of locally irradiated foodstuffs (mango and smoked fish) were established by using inexpensive but highly sensitive short-term mutagenicity assays.

Marketing trials of irradiated onions and garlic were conducted by the FDC and PNRI and the relevant industries to evaluate consumer reaction and product saleability. Post storage behavior of the commodities was also determined. Studies have shown that irradiated products sold faster than their respective controls and consumers have accepted the products as presented.

Towards promoting public acceptance, a 15 minute documentary film on food irradiation featuring onions, garlic, mangoes and shrimps was prepared. This film footage will be included to make a longer film together with those of other ASEAN countries.

Efforts are also being exerted to amend the Philippine Food and Drugs Act to include irradiation as a process of food preservation. This move will help facilitate the clearance of some food commodities which may soon be cleared for human consumption.

A demonstration facility with a 30,000 Curie cobalt-60 source is already operational. This facility is expected to accelerate research and development activities in food and medical products sterilization.

4. Research Reactor and Energy based Projects

4.1 Research Reactor-based Projects

4.1.1 Research Reactor Utilization

The Philippines participated in the Project Formulation Meeting held at Kuala Lumpur, Malaysia, 6-9 March 1989 where the initial direction of the project was discussed.

The project is very timely in view of the completion of the upgrading of the Philippine Research Reactor into a TRIGA-type reactor with a 3 megawatt capacity.

Energy and Nuclear Planning

4.1.2 Basic Science Using Research Reactor

The Philippines participated in the WASP/MAED/Users Workshop Kuala Lumpur, 5-9 December 1988. It participated in the Training Course on Electric Systems Expansion Planning in May 1989.

The continuing success of the Regional Co-operative Agreement (RCA) is an affirmation of the strong resolve of the participating countries to improve the level of self-sufficiency in the utilization of radiation techniques in the field of medicine, agriculture and industry. The increasing percentage of non-IAEA funding reflects the broadening of the base of RCA resources and the maximization of the financial and human resources from the Region. The IAEA support however, remains a major factor in the success of the programme.

The Philippines looks forward to an even more active participation in the activities of the RCA programme. The projects currently supported are highly relevant to the ultimate goal of transforming the Philippines into a newly industrialized country by the year 2000. Needless to say, it is our hope that as we come nearer to reaching this goal, we would be

contributing more significantly to the pool of resources made available to the programme. Even at this time, however, we would like to offer the Philippines as venue of the RCA Working Group Meeting in the near future.

On behalf of the Philippine government and of the project counterparts, I wish to thank the Agency and especially the donor states who have been supporting the RCA programme so generously and consistently.

RCA BUDGET ESTIMATES 1990 (August 1989)

No	Project/Activities	Source	1990 US\$K
1.	UNDP Regional Industrial Project	UNDP ⁽¹⁾	729.1
		TC ⁽²⁾	115.8
		JPN ⁽³⁾	366
		AUL ⁽⁴⁾	223.9
		CPR	25
2.	Strengthening of Radiation Protection	JPN	170.8
		AUL	100
		IND	25
		TC	
3.	Research Reactor Utilization	TC	(75)
		Reg ⁽⁵⁾	(48)
		JPN	tba
		AUL	tba
		IND	25
4.	Regional Project on food irradiation (phase III) Workshop	UNDP	164
		CPR ⁽⁶⁾	25
5.	Improvement of Grain Legume	UNDP	220
6.	Control of Tropical Plant Viruses	JPN	tba
7.	Imaging procedures for diagnosis of liver diseases (phase II)	JPN	128
8.	Improvement of cancer therapy (phase II)	JPN	160
9.	Radioaersol imaging for diagnosis respiratory diseases	IND ⁽⁷⁾	tba
		Reg	30
10.	Radiation sterilization of biological tissue grafts	Reg	57
		TC	68
11.	Radioimmunoassay (Hepatitis B)	TC	160.8
12.	Computers and Imaging in Nuclear Med.	AUL	168
13.	Nuclear techniques for toxic elements in foodstuffs	Reg	34
14.	BARC Workshop	IND	25
15.	Care and Maintenance of nuclear med. instruments	Reg	40
		TC	73.8
16.	Workshops/TC funded by Republic of Korea	ROK ⁽⁸⁾	50
17.	Energy and nuclear power planning	TC	64.4
18.	Project supporting TCDC	TC	58.8

*tba - to be announced